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Communicable Disease Control UPDATE

MECKLENBURG COUNTY HEALTH DEPARTMENT
A Quarterly Publication

Disease Detectives

Inside this issue:

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Pertussis and Tdap

Rising cases of pertussis have been reported in Idaho, Texas, South Carolina, Michigan, and in California, where 1,500 children have been diagnosed in what's being called "the worst outbreak of pertussis in 50 years".

According to Dr. Tom Clark, a medical epidemiologist with the CDC, there is some evidence that being under-vaccinated or not vaccinated at all is contributing to a portion of the cases in the California outbreak and in other locations.

Mecklenburg County reported approximately one-third of North Carolina's cases in 2007 with 124 cases reported (332 contacts were identified), 35 cases in 2008, 13 cases in 2009, and 9 cases as of July 30, 2010.

In efforts to prevent another outbreak as was seen in 2007, the Mecklenburg County Health Department has given record numbers of Tdap vaccine. In 2006, 769 doses of Tdap were given; in 2007, 2,599 doses were given; 8,581 in 2008, 5,085 in 2009, and through June 30, 2010, 1,141 have been given. Vaccinations increased in 2007 with the expansion of the 2007 Tdap recommendations for adults ages 19 – 64.

According to the North Carolina Immunization Registry, Tdap doses given by other Mecklenburg County healthcare providers includes: 11,361 doses in 2007, 21,972 doses in 2008, 19,106 doses in 2009, and 8,401 to date in 2010.

With the phase out of the State Vaccine Program effective July 1, 2010, there is some concern that under-insured children will not receive all required immunizations putting them at a higher risk for contracting pertussis and other vaccine preventable diseases.

The phase out of state funding will not affect the Federal Vaccines for Children (VFC) program. VFC eligible children include those who are Medicaid-eligible, American Indian, Alaskan Native, uninsured, or underinsured. Underinsured children are those whose insurance does not pay for vaccinations for various reasons. Therefore, those who have insurance but are not fully covered for vaccines are not VFC eligible. Children are considered insured even if they must meet a deductible or pay a co-pay.

Continued vaccination not only of children, but of adults, is essential to protect those who are under-vaccinated or unable to be vaccinated. Those in high risk categories such as health care or child care providers, and even parents, need to be educated on the importance of vaccination and the resurgence of the disease throughout our country.

More information regarding immunizations and the VFC program can be found at ***www.immunizenc.com***.

For more information, contact Beth W. Young at ***Elizabeth.Young@MecklenburgCountyNC.gov*** or 704.336.5076.

Did you know...
...that the Communicable Disease Best Practice in Public Health Marketing Award went to the Mecklenburg County Health Department's CD Control Program at the 1st Annual NC DPH Communicable Disease Conference? It was given in recognition of effective use of marketing techniques to inform the community of resources for disease control and prevention, health department services and communicable disease threats. The award noted "the health department uses broadcast fax to notify 300+ provider sites of urgent or routine public health updates; a quarterly newsletter is sent to providers in the community—originally sent hard copies—now sent by email and placed on their website; and Geo Cast Web is used to notify hard phones lines within a geographical area of a rabid animal."

Crypto

The number of reported cases of cryptosporidiosis (a.k.a. "Crypto") in the United States reported in 2005-2007 increased threefold compared with 2004. A significant increase in the number of reported cases was typically associated with an outbreak in treated recreational water. In the summer of 2005, New York State experienced a large outbreak (> 3,000 persons ill) associated with the use of a recreational interactive fountain. There were 9,113 reported cases in the United States in 2008. Nationally, the highest incidence rate occurred in Caucasians. There was no significant difference in the incidence between genders and ethnicities. The majority of cases were reported in August, September and October 2008.

Cryptosporidiosis is a gastrointestinal illness caused by protozoa that infects both humans and animals. Symptoms may include watery diarrhea, abdominal cramps, loss of appetite, low-grade fever, nausea, vomiting, and weight loss. Asymptomatic infection is common. Only one antiparasitic drug, Nitazoxanide, is approved for treatment of cryptosporidiosis in the United States.

Cryptosporidium is transmitted by the fecal-oral route. Transmission may occur through consumption of fecally contaminated water or food, or through direct person-to-person or animal-to-person contact. Infected cattle serve as an important reservoir. C*ryptosporidium* is the leading cause of reported outbreaks of gastroenteritis related to use of recreational waters. Transmission is facilitated in recreational waters by the large numbers of oocysts that can be shed by one infected individual, the high resistance of the oocysts to chlorine, low infectious dose, and insufficient pool maintenance (particularly children's wading pools). Persons in the following categories are at high risk for infection: persons who have contact with infected animals; persons who swallow contaminated recreational or drinking water; close contacts of infected persons; and travelers to disease-endemic areas. The CDC's guidelines to prevent infection with *Cryptospordium* can be found at ***www.CDC.gov***.

Eighteen residents of Mecklenburg County were reported with Cryptosporidiosis in 2009. The majority of cases were Caucasians (44%) followed by African-American (33%). Females accounted for 55% of the reported cases. Fifty-five percent (55%) were adults. Twenty-seven percent (27%) reported travel within the United States, Twenty-seven percent (27%) reported travel outside the United States (Mexico, India, Belize). Forty-four percent (44%) reported contact with animals. Forty -four percent (44%) reported contact with recreational water. Three residents acquired their infection at a summer camp.

When a case of cryptosporidiosis is reported to the local health department, the public health nurse does the following:: investigates to determine the possible sources of infection; determines what control measures are necessary including excluding symptomatic cases from daycare, swimming or work if employed in a sensitive occupation; conducts an assessment to determine if the case has anything in common with other reported cases; educates the case on how to avoid infection with *Cryptosporidium*; collaborates with the Department of Agriculture and/ or Environmental Health if food, beverages or water is suspected as the source; and collaborates with Environmental Health within the local health department if case attends child care or is employed as a foodhandler or child care worker.

For more information, contact Jane Hoffman at 704.336.5490 or ***Jane.Hoffman@MecklenburgCountyNC.gov***.

This periodical is written and distributed quarterly by the Communicable Disease Control Program of the Mecklenburg County Health Department for the purpose of updating the medical community in the activities of Communicable Disease Control. Program members include: Health Director—E. Wynn Mabry, MD; Medical Director— Stephen R. Keener; MD; Deputy Health Director—Bobby Cobb; Director, CD Control—Carmel Clements; Sr. Health Manager—Wanda Locklear; CD Control nurses—Freda Grant, Jane Hoffman, Penny Moore, Elizabeth Quinn, Belinda Worsham; Childcare nurse—Elizabeth Young; TB Outreach nurse—Earlene Campbell-Wright (also Adult Day Health); Rabies/ Zoonosis Control—Al Piercy; Sr. Health Manager STD/HIV — Lorraine Houser; Health Supervisor—Carlos McCoy; DIS—Mary Ann Curtis, John Little, Michael Rogers, Jose' Pena; Preparedness Coordinator—Bobby Kennedy; Preparedness Health Supervisor—Steve Newman; CRI Coordinator—Amy Williams; Regional Surveillance Team— Health Supervisor—Diane Thomas; Valerie Lott, Denise Wall, Vivian Brown; Office Assistants— Audrey Elrod, Natalie Jones

Lorraine Houser
Carmel Clements
Editors

Did you know...
...the absence of the hepatitis B surface antigen (HBsAg) indicates a person is **not** infected with hepatitis B? Its absence also does **not** demonstrate immunity. The presence of the hepatitis B surface antibody (anti-HBs) demonstrates immunity.

Mumps Immunity

Not all young to middle-aged Americans have immunity to mumps. Dr. Preeta K. Kutty, medical epidemiologist in the Division of Viral Diseases at the CDC, conducted research to determine the level of mumps immunity in person's ages 6-49 years.

Interest in this topic increased after the 2006 outbreak seen largely in college students in Midwestern states. Serum samples from over 15, 000 participants in the U.S. National Health and Nutritional Examination Survey (NHANES) conducted between 1999 and 2004 were available for testing for the presence of immunoglobulin G (IgG) antibody to mumps virus. Ninety percent (90%) of the participant's ages 6-49 years had immunity to mumps. Ninety percent (90%) to ninety-two percent (92%) immunity is needed to achieve "herd immunity" (a level high enough to prevent large outbreaks). The lowest prevalence of immunity was found in persons born between 1967 and 1976 (86%).

Another mumps outbreak began in a New York summer camp in 2009 after a child returned from the United Kingdom. The 2009 mumps outbreak resulted in more than 1,500 illnesses in New York and New Jersey. The findings of Dr. Kutty's research underscore the importance of all children receiving the recommended two doses of measles-mumps-rubella (MMR) vaccine. Unfortunately, some fully vaccinated individuals will develop mumps infection since two doses of MMR vaccine is 79-95% effective.

For more information, contact Jane Hoffman at 704.336.5490 or ***Jane.Hoffman@MecklenburgCountyNC.gov***.

Dengue Redux

After a 75-year absence, dengue virus reemerged in Florida in 2009. It is estimated that 5% of the population of Key West (more than 1,000 people) have been infected at some point with the dengue virus. Most of them probably were not aware of being infected and most did not travel outside of Florida. The last outbreak of dengue in Florida occurred in 1934.

Researchers are concerned that if dengue gains a foothold in Key West, it will travel to other southern cities, like Miami, where the mosquito that transmits dengue is present. They are trying to determine if these cases are isolated occurrences or if dengue has once again become endemic in the continental United States.

Dengue is the most common virus transmitted by mosquitoes, infecting 50 million to 100 million people every year and killing 25,000 of them. The most common cause of febrile illness in patients returning from Asia and Latin America is dengue, not malaria.

It can cause classic flu-like symptoms but can also take on a hemorrhagic form that causes internal and external bleeding and sudden death. Companies are working on a vaccine to prevent dengue but currently there is no effective drug to treat it.

Dengue was eradicated in the United States in the 1940s but a few locally acquired U.S. cases have been confirmed along the Texas-Mexico border since the 1980s. More cases have been reported recently in Mexico and the Caribbean.

After 27 cases of dengue were reported in Florida in 2009, scientists from the CDC and the Florida Department of Health took blood samples from 240 randomly chosen Key West residents. Of the survey participants, 41% showed evidence of a previous infection, and 13 participants showed evidence of either an acute, recent, or presumptive recent dengue infection. Of these, 5% had active dengue infections or antibodies to the virus, showing they had been infected, researchers told the International Conference on Emerging Infectious Diseases being held in Atlanta. Since it is not possible to predict the spread of dengue, clinicians should be aware that if febrile illnesses occur during peak mosquito season, dengue should be considered.

For more information, contact Beth Quinn at 704.336.5398 or ***Elizabeth.Quinn @ MecklenburgCountyNC.gov***.

Did you know…

…according to the CDC, 1 out of every 25 restaurant-associated foodborne disease outbreaks with identified food sources between 1998 and 2008 can be traced back to contaminated salsa or guacamole? This a significant increase compared to the previous decade. Poor storage (times or temperature issues) were reported in one third of the food establishment outbreaks during this time period. Preparing salsa or guacamole in large batches increases the potential for bacterial growth. Food workers were the source of contamination in 20% of the restaurant outbreaks. Foods containing raw ingredients should be carefully prepared and kept refrigerated.

2009 TUBERCULOSIS FACT SHEET

A Profile of Mecklenburg County Reported Cases

Tuberculosis Case Report Highlights, 2008 - 2009
Mecklenburg County Residents

2008 Mecklenburg County Verified Tuberculosis (TB) Case Reports

Total TB Cases = 44

Annual Case Rate = 5.0 per 100,000 population

	Cases	%
Gender		
Male	27	61.4%
Female	17	38.6%
Racial Categories (Includes Hispanic Cases)		
White	18	40.9%
Black or African American	17	38.6%
Asian or Pacific Islander	7	15.9%
American Indian	0	0.0%
Other/Unknown Racial Group	2	4.6%
Ethnicity (Hispanic/Latino)		
Non-Hispanic	32	72.7%
Hispanic	12	27.3%
Unknown/Missing	0	0.0%
Country of Origin		
U.S. Native	29	65.9%
Foreign-Born	15	34.1%
Age Group		
0 - 19 yrs	3	6.8%
20 - 29 yrs	11	25.0%
30 - 39 yrs	10	22.7%
40 - 49 yrs	12	27.3%
50 - 59 yrs	6	13.6%
over 60 yrs	2	4.6%
Behavioral and Occupational Risk Categories (Within the Past Year)		
Injected Drugs	0	0.0%
Non-Injecting Drug Use	11	25.0%
Excessive Alcohol Use	4	9.1%
Homeless	1	2.3%
Resident of Long-Term Care Facility	0	0.0%
Clinical Data		
Site of Disease		
Pulmonary	32	72.7%
Extra Pulmonary	7	15.9%
Both	5	11.4%

2009 Mecklenburg County Verified Tuberculosis (TB) Case Reports

Total TB Cases = 33

Annual Case Rate = 3.7 per 100,000 population

	Cases	%
Gender		
Male	18	54.6%
Female	15	45.4%
Racial Categories (Includes Hispanic Cases)		
White	6	18.2%
Black or African American	16	48.5%
Asian or Pacific Islander	11	33.3%
American Indian	0	0.0%
Other/Unknown Racial Group	0	0.0%
Ethnicity (Hispanic/Latino)		
Non-Hispanic	28	84.8%
Hispanic	5	15.2%
Unknown/Missing	0	0.0%
Country of Origin		
U.S. Native	19	57.6%
Foreign-Born	14	42.4%
Age Group		
0 - 19 yrs	5	15.1%
20 - 29 yrs	4	12.1%
30 - 39 yrs	6	18.2%
40 - 49 yrs	4	12.1%
50 - 59 yrs	6	18.2%
over 60 yrs	8	24.2%
Behavioral and Occupational Risk Categories (Within the Past Year)		
Injected Drugs	1	3.0%
Non-Injecting Drug Use	7	21.2%
Excessive Alcohol Use	5	15.1%
Homeless	2	6.1%
Resident of Long-Term Care Facility	0	0.0%
Clinical Data		
Site of Disease		
Pulmonary	19	57.6%
Extra Pulmonary	8	24.2%
Both	6	18.2%

Data Source: North Carolina Electronic Disease Surveillance System (NC EDSS)

Prepared by: Mecklenburg County Health Department, Epidemiology Program 06/2010 - 2 -

ACIP Guidelines for Flu Vaccine

The CDC 's Advisory Committee on Immunization Practices (ACIP) has issued new 2010 recommendations for prevention and control of influenza with vaccines according to guidelines reported in the July 29 issue of *Morbidity and Mortality Weekly Report*.

The 2010 guidelines emphasize the following:

- All persons at least 6 months old should receive annual vaccination for the 2010-2011 influenza season;
- During the 2010-2011 season, 2 doses of a 2010-2011 seasonal influenza vaccine should be given at a minimal interval of 4 weeks to children aged 6 months to 8 years with unknown vaccination status who have never received seasonal influenza vaccine before (or who received seasonal vaccine for the first time in 2009-2010 but received only 1 dose in their first year of vaccination), as well as to children who did not receive at least 1 dose of an influenza A (H1N1) 2009 monovalent vaccine regardless of previous influenza vaccine history;
- Vaccines should contain the 2010-2011 trivalent vaccine virus strains A/California/7/2009 (H1N1)-like (the same strain as was used for 2009 H1N1 monovalent vaccines), A/Perth/16/2009 (H3N2)-like, and B/Brisbane/60/2008-like antigens;
- The report describes *Fluzone High-Dose* (Sanofi Pasteur), a newly approved vaccine for persons at least 65 years old; and
- The report also provides information about other newly approved, standard-dose influenza vaccines and expanded age indications for previously approved vaccines.

Emphasis on providing routine vaccination annually to groups at higher risk for influenza infection or complications is advised. Groups include all children aged 6 months–18 years, all persons aged ≥50 years, and other persons at risk for medical complications from influenza.

From the CCNC (Child Care Nurse Consultant)

Vaccine Safety Update: DTaP/ Tdap

There have been hundreds of reports of accidental mix ups of DTaP and Tdap in the last several years according to the Institute for Safe Medication Practices Medication Errors Reporting Program (ISMP-MERP). It has been reported that the cause of this is partially due to the similarity in the product names (DTaP/Tdap). DTaP is sold under the brand names DAPTACEL and TRIPEDIA (Sanofi Pasteur), and INFANRIX (GlaxoSmithKline). This formulation is for *active immunization* of pediatric patients 6 weeks through 6 years of age. The other vaccine, tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine (Tdap), is sold under the names BOOSTRIX (GlaxoSmithKline) and ADACEL (Sanofi Pasteur), and is meant to be used as *booster* shots for older children, adolescents, and adults.

These products are easy to confuse due to their similar names and abbreviations. The upper case letters in DTaP correspond with higher antigen quantity of the diphtheria and pertussis components, relative to Tdap and its lowercase letters. A larger amount of antigen is needed for initial immunization versus a booster shot. An adult who gets DTaP (higher amount of antigen) would not need to be revaccinated but would be more likely to have a sore arm at the vaccination site. But a child who was given Tdap would have received a lesser amount of antigen and may not have proper immune response to protect them from these diseases.

Recommendations to avoid these errors include separating the vaccine in the refrigerator where it is stored; using a 2-person double check system before administration of the vaccine; and in the hospital setting double checking the MAR lot number against the lot number on the vial. Manufacturers of the vaccines are also attempting to prevent further mix up by color coding the vials or prefilled syringes and recommendations have been made to differentiate the two different vaccines.

Bite with Blood Exposure in Child Care Facilities

All bites with suspected blood exposure that occur in child care facilities are to be reported to the Child Care Nurse Consultant in the Communicable Disease Control Program at the Mecklenburg County Health Department. The incident will be investigated to ensure there has been a true blood exposure, all parties have been tested for Hepatitis B surface antigen and HIV within the allowed time frame (5 business days), and that test results are exchanged between physicians.

Please contact Beth Young, Child Care Nurse Consultant at 704.336.5076 for all suspected blood exposures in a child care facility.

North Carolina Department of Health and Human Services
Division of Public Health • Epidemiology Section
Communicable Disease Branch • Immunization Branch (VCH Section)

North Carolina Public Health

ATTENTION PHYSICIANS/HOSPITALS:
Mail/fax this form to your local health department

Mecklenburg County Health Department
700 North Tryon St., Ste. 214
Charlotte, NC 28202

Sexually Transmitted Diseases, HIV & AIDS
(Call) 704.432.1742 or (Fax) 704.336.6200

All Other Reportable Communicable Diseases
(Call) 704.336.2817 or (Fax) 704.353.1202

Confidential Communicable Disease Report—Part 1

NC DISEASE CODE (see reverse side for code)	DATE OF SYMPTOM ONSET

Patient's First Name	Middle	Last	Suffix	Maiden/Other	Alias

Birthdate (mm/dd/yyyy)	Sex	Parent or Guardian (of minors)	Patient Identifier / SSN
	☐ M ☐ F ☐ Trans.		

Patient's Street Address	City	State	ZIP	County	Phone
					(____) ____-____

Age _____ **Age Type:** ☐ Years ☐ Months ☐ Weeks ☐ Days

Race (check all that apply): ☐ White ☐ Black/African American ☐ American Indian/Alaska Native ☐ Native Hawaiian or Pacific Islander ☐ Asian ☐ Other ☐ Unknown

Ethnic Origin: ☐ Hispanic ☐ Non-Hispanic

Was patient hospitalized for this disease? (>24 hours) ☐ Yes ☐ No

Did patient die from this disease? ☐ Yes ☐ No

Is the patient pregnant? ☐ Yes ☐ No

Patient is associated with (check all that apply):
- ☐ Child Care (child, household contact, or worker in child care)
- ☐ School (student or worker)
- ☐ College/University (student or worker)
- ☐ Food Service (food worker)
- ☐ Health Care (health care worker)
- ☐ Correctional Facility (inmate or worker)
- ☐ Long Term Care Facility (resident or worker)
- ☐ Military (active military, dependent, or recent retiree)
- ☐ Travel (outside continental United States in last 30 days)

Initial Source of Report to Public Health:
- ☐ Health Care Provider (specify):
  - ☐ Hospital
  - ☐ Private clinic/practice
  - ☐ Health Department
  - ☐ Correctional facility
- ☐ Laboratory
- ☐ Other

Name: _____
Contact Person/Title: _____
Phone: (____) ____-____ Fax: (____) ____-____
Date Local Health Department Notified: _____

Where was disease/condition most likely acquired?
- ☐ In patient's county of residence
- ☐ Outside county, but within NC - County: _____
- ☐ Out of state - State/Territory: _____
- ☐ Out of USA - Country _____
- ☐ Unknown

Local Health Department Use Only
Was this disease part of a recognized outbreak? ☐ Yes ☐ No
Outbreak setting:
- ☐ Restaurant/Retail (name): _____
- ☐ Household (index case): _____
- ☐ Child Care (name): _____
- ☐ Other (specify): _____
- ☐ Community (index case): _____

Local Health Department Use Only
Communicable Disease Nurse or Designee Reporting to DPH:
Name: _____
Phone: (____) ____-____
Date sent to DPH _____
Local Health Director's Signature or Stamp Approving Report

CLINICAL INFORMATION

Specify patient symptoms and treatment:

For sexually transmitted diseases only—If patient was treated, specify medication, dosage, & duration:

DIAGNOSTIC TESTING

LABORATORY TESTING:

Collection Date	Result Date	Type of Test	Specimen Source	Results (include serogroup/type)	Reference Range	Lab Name—City/State

Attach Lab Report

DHHS 2124 (Revised January 2003) EPIDEMIOLOGY

Reporting Communicable Diseases – Mecklenburg County

To request N.C. Communicable Disease Report Forms, telephone 704.336.2817
Mark all correspondence "CONFIDENTIAL"

Tuberculosis:

TB Clinic 704.432.2490
Mecklenburg County Health Department FAX 704.432.2493
2845 Beatties Ford Road
Charlotte, NC 28216

Sexually Transmitted Diseases, HIV, & AIDS:

HIV/STD Surveillance 704.432.1742
Mecklenburg County Health Department FAX 704.336.6200
700 N. Tryon Street, Suite 214
Charlotte, NC 28202

All Other Reportable Communicable Diseases including Viral Hepatitis A, B & C:

Report to any of the following nurses:

Freda Grant, RN 704.336.6436
Jane Hoffman, RN, 704.336.5490
Elizabeth Quinn, RN 704.336.5398
Belinda Worsham, RN 704.336.5498
Penny Moore, RN 704.353.1270
Communicable Disease Control FAX 704.353.1202
Mecklenburg County Health Department
700 N. Tryon Street, Suite 271
Charlotte, NC 28202

Animal Bite Consultation / Zoonoses / Rabies Prevention:

Al Piercy, RS 704.336.6440
Communicable Disease Control FAX 704.432.6708
Mecklenburg County Health Department
618 N. College St.
Charlotte, NC 28202
or State Veterinarian, Carl Williams, DVM 919.707.5900
State after hours 919.733.3419

Child Care Nurse Consultant:

Elizabeth Young, RN 704.336.5076
Communicable Disease Control FAX 704.353.1202
Mecklenburg County Health Department
700 N. Tryon Street, Suite 271
Charlotte, NC 28202

Suspected Food borne Outbreaks / Restaurant, Lodging, Pool and Institutional Sanitation:

Food & Facilities Sanitation (Mon-Fri) 704.336.5100
Mecklenburg County Health Department (evenings; Sat/Sun) 704.432.1054
700 N. Tryon Street, Suite 208 (pager evenings; Sat/Sun) 704.580.0666
Charlotte, NC 28202 FAX 704.336.5306

Mecklenburg County Health Department